

## Refine Search

### Search Results -

Terms	Documents
L10 and L9	8

Database:

US Pre-Grant Publication Full-Text Database  
 US Patents Full-Text Database  
 US OCR Full-Text Database  
 EPO Abstracts Database  
 JPO Abstracts Database  
 Derwent World Patents Index  
 IBM Technical Disclosure Bulletins

Search:

L11

Refine Search

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Interrupt

### Search History

DATE: Thursday, September 16, 2004    [Printable Copy](#)    [Create Case](#)

#### Set Name Query

side by side

#### Hit Count Set Name

result set

*DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ*

<u>L11</u>	L10 and I9	8	<u>L11</u>
<u>L10</u>	ethyne.ti. or acetylene.ti. or vinylene.ti. or ethine.ti.	7982	<u>L10</u>
<u>L9</u>	L8 and (acetaldehyde or propionaldehyde or succindialdehyde)	356	<u>L9</u>
<u>L8</u>	L6 and (metal oxide)	3805	<u>L8</u>
<u>L7</u>	L6 and (dehydration catalyst or metal oxide)	3884	<u>L7</u>
<u>L6</u>	L5 and catalyst	26331	<u>L6</u>
<u>L5</u>	ethyne or acetylene or vinylene or ethine	69285	<u>L5</u>

*DB=PGPB,USPT; PLUR=YES; OP=ADJ*

<u>L4</u>	20020026088	1	<u>L4</u>
<u>L3</u>	2002026088	0	<u>L3</u>
<u>L2</u>	200226088	0	<u>L2</u>

*DB=USPT; PLUR=YES; OP=ADJ*

<u>L1</u>	200226088	0	<u>L1</u>
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## Hit List

Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs
Generate OACS				

Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 20040102647 A1

Using default format because multiple data bases are involved.

L11: Entry 1 of 8

File: PGPB

May 27, 2004

PGPUB-DOCUMENT-NUMBER: 20040102647

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040102647 A1

TITLE: Acetaldehyde dehydration to produce ethyne

PUBLICATION-DATE: May 27, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Everett, Christian	Springfield	IL	US	

US-CL-CURRENT: 562/532; 585/534

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 2. Document ID: US 20020026088 A1

L11: Entry 2 of 8

File: PGPB

Feb 28, 2002

PGPUB-DOCUMENT-NUMBER: 20020026088

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020026088 A1

TITLE: Acetaldehyde dehydration to produce ethyne

PUBLICATION-DATE: February 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Everett, Christian	Springfield	IL	US	

US-CL-CURRENT: 585/539

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 3. Document ID: US 5675041 A

L11: Entry 3 of 8

File: USPT

Oct 7, 1997

US-PAT-NO: 5675041

DOCUMENT-IDENTIFIER: US 5675041 A

TITLE: Direct hydroformylation of a multi-component synthesis gas containing carbon monoxide, hydrogen, ethylene, and acetylene

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 4. Document ID: US 5600017 A

L11: Entry 4 of 8

File: USPT

Feb 4, 1997

US-PAT-NO: 5600017

DOCUMENT-IDENTIFIER: US 5600017 A

TITLE: Direct hydroformylation of a multi-component synthesis gas containing carbon monoxide hydrogen ethylene and acetylene- (LAW072)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 5. Document ID: US 4658080 A

L11: Entry 5 of 8

File: USPT

Apr 14, 1987

US-PAT-NO: 4658080

DOCUMENT-IDENTIFIER: US 4658080 A

TITLE: Acetylene removal process

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 6. Document ID: US 4644088 A

L11: Entry 6 of 8

File: USPT

Feb 17, 1987

US-PAT-NO: 4644088

DOCUMENT-IDENTIFIER: US 4644088 A

TITLE: Acetylene removal process

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw D
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☐ 7. Document ID: US 4513159 A

L11: Entry 7 of 8

File: USPT

Apr 23, 1985

US-PAT-NO: 4513159

DOCUMENT-IDENTIFIER: US 4513159 A

**\*\* See image for Certificate of Correction \*\***TITLE: Acetylene removal process

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachment	Claims	KMC	Draw D
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☐ 8. Document ID: US 20040102647 A1

L11: Entry 8 of 8

File: DWPI

May 27, 2004

DERWENT-ACC-NO: 2004-440000

DERWENT-WEEK: 200441

COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Production of ethyne by passing acetaldehyde in gas phase through reaction zone containing dehydrating metal oxide catalyst, such as aluminum oxide or magnesium oxide at specific temperature, to remove molecule of water

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachment	Claims	KMC	Draw D
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L10 and L9

8

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ethyne/cn  
1 ETHYNE/CN

ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN  
74-86-2 REGISTRY

Ethyne (9CI) (CA INDEX NAME)

R CA INDEX NAMES:

Acetylene (8CI)

Vinylene (7CI)

R NAMES:

Ethine

Narcylen

3D CONCORD

57113-74-3

C2 H2

COM

STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS,  
BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN,  
CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU,  
DETERM\*, DIPPR\*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT,  
ENCOMPPAT2, GMELIN\*, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, MEDLINE,  
MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*, SPECINFO,  
SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VTB

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

A Caplus document type: Book; Conference; Dissertation; Journal; Patent;  
Preprint; Report

Roles from patents: ANST (Analytical study); BIOL (Biological study);  
FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU  
(Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT  
(Reactant or reagent); USES (Uses); NORL (No role in record)

P Roles for non-specific derivatives from patents: ANST (Analytical  
study); BIOL (Biological study); MSC (Miscellaneous); PREP  
(Preparation); PROC (Process); PRP (Properties); RACT (Reactant or  
reagent); USES (Uses)

IP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); CMBI (Combinatorial study); FORM (Formation, nonpreparative);  
MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC  
(Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses);  
NORL (No role in record)

NP Roles for non-specific derivatives from non-patents: ANST (Analytical  
study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC  
(Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process);  
PRP (Properties); RACT (Reactant or reagent); USES (Uses)

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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

33746 REFERENCES IN FILE CA (1907 TO DATE)

574 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

33781 REFERENCES IN FILE CAPLUS (1907 TO DATE)

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

(FILE 'HOME' ENTERED AT 14:58:40 ON 16 SEP 2004)

FILE 'REGISTRY' ENTERED AT 14:58:55 ON 16 SEP 2004

1 S ETHYNE/CN

FILE 'CAPLUS' ENTERED AT 15:00:26 ON 16 SEP 2004

3155 S 74-86-2/PREP

3369 S 74-86-2/PROC

6441 S L2 OR L3

97 S L4 AND (ACETALDEHYDE OR PROPINALDEHYDE OR SUCCINDIALDEHYDE)

1 S L5 AND ALUMINUM OXIDE

1 S L5 AND METAL OXIDE

1 S L5 AND MAGNESIUM OXIDE

s 16 or 17 or 18

3 L6 OR L7 OR L8

d 1-3 ibib abs hitstr

ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

CESSION NUMBER: 2004:433798 CAPLUS

CUMENT NUMBER: 140:423393

TLE: Catalytic dehydration of **acetaldehyde** to produce ethyne

VENTOR(S): Everett, Christian

TENT ASSIGNEE(S): USA

URCE: U.S. Pat. Appl. Publ., 3 pp., Cont.-in-part of U.S. Pat. Appl. 2002 26,088.

CODEN: USXXCO

CUMENT TYPE: Patent

NGUAGE: English

MILY ACC. NUM. COUNT: 2

TENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004102647	A1	20040527	US 2003-673946	20030930
US 2002026088	A1	20020228	US 2001-910248	20010720
PRIORITY APPLN. INFO.:			US 2000-228828P	P 20000828
			US 2001-910248	B2 20010720

HER SOURCE(S): CASREACT 140:423393

A process to produce ethyne comprising passing **acetaldehyde** in the gas phase through a reaction zone containing a dehydrating **metal oxide** catalyst such as alumina or magnesia at approx. 375° to produce ethyne and water which are fed into a cooling zone following the reaction zone. This method has the advantage of ease of separation of ethyne from the co-product water and unreacted **acetaldehyde** by simple condensation whereby the **acetaldehyde** and water liquefy while The ethyne remains gaseous.

74-86-2P, Ethyne, preparation

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); **PREP (Preparation)**

(catalytic dehydration of **acetaldehyde** to produce ethyne)

74-86-2 CAPLUS

Ethyne (9CI) (CA INDEX NAME)

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ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

CESSION NUMBER: 2004:428865 CAPLUS

CUMENT NUMBER: 140:409180

TLE: Production of carbon nanotubes and/or nanofibers

VENTOR(S): Kinloch, Ian; Singh, Charanjeet; Shaffer, Milo  
Sebastian Peter; Koziol, Krzysztof K. K.; Windle, Alan  
H.

TENT ASSIGNEE(S): Cambridge University Technical Services Limited, UK  
URCE: PCT Int. Appl., 28 pp.  
CODEN: PIXXD2  
CUMENT TYPE: Patent  
NGUAGE: English  
MILY ACC. NUM. COUNT: 1  
TENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004043858	A1	20040527	WO 2003-GB4925	20031113
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ			
RW:	BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

RIORITY APPLN. INFO.: GB 2002-26590 A 20021114  
Aligned carbon nanotubes and/or nanofibers are produced by CVD by contacting a carbon-containing gas with prefinely divided substrate particles having substantially smooth faces with radii of curvature of > 1 µm and of length and breadth between 1 µm and 5 mm and having a catalyst material on their surface at 650-1250°. The substrate particles are made of silica, alumina, graphite, mica, **magnesium oxide**, calcium oxide, sodium chloride, aluminum, titanium, or aluminosilicate. The substrate is freshly prepared by colloidal processing, spray-drying, hydrothermal processing, or ball-milling. The catalyst can be iron, cobalt, molybdenum, nickel and can be prepared by decomposition of a precursor, especially ferrocene, nickelocene, cobaltocene, iron pentacarbonyl, or nickel tetracarbonyl. The carbon-containing gas can be CO, benzene, toluene, xylene, cumene, ethylbenzene, naphthalene, phenanthrene, anthracene, methane, ethane, propane, hexane, ethylene, propylene, acetylene, formaldehyde, **acetaldehyde**, acetone, methanol, ethanol or their mixts. A boron and/or nitrogen-containing compound can be added to the carbon-containing gas. A promoter, such as thiophene, can be added to the carbon-containing gas.  
74-86-2, Acetylene, reactions  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); **PROC (Process)**; RACT (Reactant or reagent)  
(production of carbon nanotubes and/or nanofibers)  
74-86-2 CAPLUS  
Ethyne (9CI) (CA INDEX NAME)

CH

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
CESSION NUMBER: 2002:158410 CAPLUS  
CUMENT NUMBER: 136:202160  
TLE: **Acetaldehyde** dehydration reaction to produce acetylene  
VENTOR(S): Everett, Christian  
TENT ASSIGNEE(S): USA  
URCE: U.S. Pat. Appl. Publ., 2 pp.  
CODEN: USXXCO  
CUMENT TYPE: Patent  
NGUAGE: English  
MILY ACC. NUM. COUNT: 2  
TENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002026088	A1	20020228	US 2001-910248	20010720
US 2004102647	A1	20040527	US 2003-673946	20030930
PRIORITY APPLN. INFO.:			US 2000-228828P	P 20000828
			US 2001-910248	B2 20010720

3 A process of dehydrating **acetaldehyde** to produce acetylene comprises passing **acetaldehyde** in the gas phase over a dehydration catalyst such as **aluminum oxide** which may be promoted with mercuric sulfate at approx. 600° to produce acetylene and water, and providing a cooling zone following the reaction zone for acetylene dewatering. This method has the advantage of ease of separation of acetylene from the unreacted **acetaldehyde** and co-product water by simple condensation where the acetylene remains gaseous while the other compds. liquefy and are separated in essentially pure form.

74-86-2P, Ethyne, preparation  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); **PREP (Preparation)**; **PROC (Process)**

(**acetaldehyde** dehydration reaction to produce acetylene)

74-86-2 CAPLUS

Ethyne (9CI) (CA INDEX NAME)

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(FILE 'HOME' ENTERED AT 14:58:40 ON 16 SEP 2004)

FILE 'REGISTRY' ENTERED AT 14:58:55 ON 16 SEP 2004  
1 S ETHYNE/CN

FILE 'CAPLUS' ENTERED AT 15:00:26 ON 16 SEP 2004

3155 S 74-86-2/PREP

3369 S 74-86-2/PROC

6441 S L2 OR L3

97 S L4 AND (ACETALDEHYDE OR PROPINALDEHYDE OR SUCCINDIALDEHYDE)

1 S L5 AND ALUMINUM OXIDE

1 S L5 AND METAL OXIDE

1 S L5 AND MAGNESIUM OXIDE

3 S L6 OR L7 OR L8

1 S L5 AND DEHYDRATION CATALYST

14 S L5 AND CATALYST

8 S L11 AND PY<2000

2 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

CESSION NUMBER: 1996:644829 CAPLUS  
CUMENT NUMBER: 126:11796  
TLE: Adsorption of acetylene and water on zeolites  
resulting in hydration to **acetaldehyde**  
THOR(S): Kallo, D.; Onyestyak, G.  
RPORATE SOURCE: Center Research Institute for Chemistry, Hungarian  
Academy of Sciences, Budapest, H-1525, Hung.  
URCE: Zeolites (1996), 17(5/6), 489-494  
CODEN: ZEOLD3; ISSN: 0144-2449  
BLISHER: Elsevier  
CUMENT TYPE: Journal  
NGUAGE: English  
Adsorption of water and acetylene on Cd forms of LTA, X(FAU), and Y(FAU),  
ERI, CHA, PHI, MOR, MFI, and clinoptilolite active in the catalytic  
hydration of acetylene at 453 K and the adsorption of acetylene on  
inactive H, Na, Co, and La forms of Y(FAU) were studied with IR  
spectroscopy at 298 K. Acetylene (1) adsorbs on acidic OH groups; (2) is  
weakly bound to cations ( $\nu_{\text{C.tplbond.C}} = 1958 \text{ cm}^{-1}$ ); (3) forms cadmium  
acetylid ( $\nu_{\text{C.tplbond.C}} = 1947 \text{ cm}^{-1}$ ); and (4) is linked in side-on  
configuration of  $\text{Cd}^{2+}$  ( $\nu_{\text{C.tplbond.C}} = 1930 \text{ cm}^{-1}$ ). Heterolytically  
dissociated water reacts with adsorbed acetylene. Formation of adsorbed  
**acetaldehyde** was observed on Cd zeolite catalysts as well as on  
catalytically inactive forms of faujasite but not on HF(FAU).  
74-86-2, Acetylene, processes  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant);  
PROC (Process); RACT (Reactant or reagent)  
(adsorption of acetylene and water on zeolites resulting in hydration  
to **acetaldehyde**)  
74-86-2 CAPLUS  
Ethyne (9CI) (CA INDEX NAME)

CH

2 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

CESSION NUMBER: 1996:201272 CAPLUS  
CUMENT NUMBER: 124:342346  
TLE: Interactions of reactants in hydration of acetylene on  
Cd-zeolite catalysts  
THOR(S): Onyestyak, Gy.; Kallo, D.  
RPORATE SOURCE: Central Research Institute for Chemistry, Hungarian  
Academy of Sciences, P.O. Box 17, Budapest, 1525,  
Hung.  
URCE: Journal of Molecular Catalysis A: Chemical (  
1996), 106(1-2), 103-8  
CODEN: JMCCF2; ISSN: 1381-1169  
BLISHER: Elsevier  
CUMENT TYPE: Journal  
NGUAGE: English  
IR measurements were carried out with Cd-MFI and Cd-clinoptilolite at  
25°. Samples of different water content were contacted with  
acetylene at different pressures. Adsorbed **acetaldehyde** was  
formed from acetylene and water both adsorbed on similar  $\text{Cd}^{2+}$  sites.  
The reaction between the two adsorbed reactants reveals the validity of  
Langmuir-Hinshelwood kinetics. Decrease of water content or increase of  
acetylene pressure facilitated the formation of carbonaceous deposits especially  
in the case of Cd-MFI. Deposits formed from acetylene displace adsorbed  
acetylene and **acetaldehyde**.  
74-86-2, Acetylene, reactions  
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT  
(Reactant); PROC (Process); RACT (Reactant or reagent)  
(hydration of acetylene with Cd-MFI and Cd-clinoptilolite catalysts)  
74-86-2 CAPLUS  
Ethyne (9CI) (CA INDEX NAME)

HC≡CH'

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1995:743772 CAPLUS  
DOCUMENT NUMBER: 123:174562  
TITLE: Determination of combustion products from alternative  
fuels - part I: LPG and CNG combustion products  
AUTHOR(S): Whitney, Kevin A.; Bailey, Brent K.  
CORPORATE SOURCE: Southwest Research Institute, USA  
SOURCE: Society of Automotive Engineers, [Special Publication]  
SP (1994), SP-1053, 25-38  
CODEN: SAESA2; ISSN: 0099-5908  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Regulated and volatile organic exhaust species were characterized from a 1993  
Chevrolet Lumina operating on CNG, LPG, and reformulated gasoline. For  
all of the fuels, the vehicle was operated over the chassis dynamometer  
portion of the Federal Test Procedure for light-duty vehicles at fuel/air  
equivalence ratios of 0.8, 1.0, and 1.2; and exhaust emissions were  
sampled both with and without the catalytic converter in place. Analyses  
of exhaust samples included determination of regulated exhaust emissions by CFR  
methods, hydrocarbon speciation and aldehyde and ketone analyses according  
to Auto/Oil Phase II methods, and the determination of trace exhaust species by  
mass spectral anal. methods. Speciation data showed greater than 87  
percent of all LPG and greater than 95 percent of all CNG hydrocarbon  
exhaust constituents to be composed of C1 to C3 compds. In addition,  
emissions from the combustion of CNG and LPG were as low as 10 percent of  
those generated by combustion of gasoline. A comparison of ozone forming  
potential of the three fuels was made based on the Maximum Incremental  
Reactivity scale used by the California Air Resources Board. Post-  
**catalyst** results from stoichiometric operation indicated that LPG  
and CNG produced 63 percent and 88 percent less potential ozone than  
reformulated gasoline, resp. On average over all equivalence ratios, CNG and  
LPG exhaust constituents were approx. 65 percent less reactive than those  
from reformulated gasoline. Finally, GC/MS anal. identified a number of  
nitrogen-containing organic compds. in LPG and CNG exhaust.  
IT 74-86-2, Acetylene, processes  
RL: FMU (Formation, unclassified); POL (Pollutant); REM (Removal or  
disposal); FORM (Formation, nonpreparative); OCCU (Occurrence); **PROC**  
(**Process**)  
(effect of fuel type and catalytic converter on exhaust emissions)  
RN 74-86-2 CAPLUS  
CN Ethyne (9CI) (CA INDEX NAME)

HC≡CH

L12 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1993:654571 CAPLUS  
DOCUMENT NUMBER: 119:254571  
TITLE: Waste-gas method for preparation of pyridine bases  
used as corrosion inhibitor  
INVENTOR(S): Yusupov, Dilmurat; Kuchkarov, Akhmed B.; Kolyada,  
Georgij G.; Pavlova, Natalya I.; Kim, Aleksandr L.;  
Shirinov, Khamid Sh.; Kapitula, Inna I.; Ivanov,  
Vladimir E.; Khamidullaev, Rikhsitulla A.; et al.  
PATENT ASSIGNEE(S): Tashkentskij polt i im.a.r.biruni, USSR  
SOURCE: U.S.S.R. From: Izobreteniya 1992, (43), 50.  
CODEN: URXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Russian  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1776652	A1	19921123	SU 1990-4808987	19900131 <--
PRIORITY APPLN. INFO.:			SU 1990-4808987	19900131

AB A mixture of pyridine bases is prepared by reacting acetylene-containing gas and NH3 in the presence of a **catalyst** at 320-360° and the gas flow input at 140-180/h. Corrosion protection of steel is increased when the acetylene-containing gas is a waste gas from the manufacture of acrylonitrile, and contains acetylene 65-68, vinylacetylene 0.3-0.4, vinyl chloride 14-20, chloroprene 1-1.5, **acetaldehyde** 0.02-0.03, acrylonitrile 0.17-0.53, HCN 0.006-0.03 volume%, and N2 as the balance. The gas waste/NH3 volume ratio is 1:(1.5-2.0). The **catalyst** is a mixture of ZnO, Al2O3, Cr2O3, and AlF3.

IT 74-86-2, Acetylene, uses  
 RL: **PROC (Process)**  
 (reaction of waste gas containing, with ammonia over **catalyst**, preparation of corrosion inhibitors by)

RN 74-86-2 CAPLUS

CN Ethyne (9CI) (CA INDEX NAME)

HC≡CH

L12 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1993:606703 CAPLUS

DOCUMENT NUMBER: 119:206703

TITLE: Effects of gasoline composition on vehicle engine-out and tailpipe hydrocarbon emissions - the Auto/Oil Air Quality Improvement Research Program

AUTHOR(S): Leppard, William R.; Rapp, Larry A.; Burns, Vaughn R.; Gorse, Robert A.; Knepper, Jay C.; Koehl, William J.

CORPORATE SOURCE: Gen. Motors Res. Lab., USA

SOURCE: Society of Automotive Engineers, [Special Publication] SP (1992), SP-920(Auto/Oil Air Quality Improvement Research Program), 435-59  
 CODEN: SAESA2; ISSN: 0099-5908

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Engine-out and tailpipe speciated hydrocarbon emissions were studied for 3 vehicles operated over the Federal Test Procedure on 2 different fuels, both of which were speciated. The fates of the fuel species were traced across the engine and across the **catalyst**, and relationships were developed between engine-out and tailpipe hydrocarbon emissions and fuel composition. These relationships allowed separating the fuel's contribution to engine-out and tailpipe hydrocarbon emissions into two parts, unreacted fuel and partial oxidation products. Specific O3 reactivities and toxic air pollutants were analyzed for both engine-out and tailpipe emissions. Vehicle-to-vehicle, fuel-to-fuel, and bag-to-bag differences are highlighted.

IT 74-86-2P, Ethyne, preparation  
 RL: **PREP (Preparation)**  
 (emission of, from gasoline engine, effect of fuel composition on)

RN 74-86-2 CAPLUS

CN Ethyne (9CI) (CA INDEX NAME)

HC≡CH

L12 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1989:233608 CAPLUS

DOCUMENT NUMBER: 110:233608

TITLE: Alloy for recovery of mercury from **acetaldehyde**-manufacturing wastewaters

INVENTOR(S): Nica, Ioan; Samide, Gert; Gavrilă, Gheorghe; Nimigeanu, Ana

PATENT ASSIGNEE(S): Combinatul Chimic, Craiova, Rom.  
SOURCE: Rom., 3 pp. Addn. to Rom. 84,123.  
CODEN: RUXXA3  
DOCUMENT TYPE: Patent  
LANGUAGE: Romanian  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	RO 93334	B1	19871231	RO 1985-117226	19851107 <--
	RO 84123	B	19840512	RO 1983-110913	19830510 <--

PRIORITY APPLN. INFO.: RO 1983-110913 19830510

AB Hg-containing wastewater from product distillation in the manufacture of AcH by steamed treatment of acetylene in the presence of FeSO<sub>4</sub>, Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>, and HgSO<sub>4</sub> is contacted with a powdered Fe alloy (Fe 93.2-94.2, C 3.2-3.6, Si 1.8-2.2, Mn 0.45-0.65, P 0.25, Sn 0.05, and Cr 0.05%) to adsorb the Hg, and the Hg-containing powder is dissolved in dilute H<sub>2</sub>SO<sub>4</sub> in ≤8 h to give a solution containing Fe<sup>2+</sup>, Fe<sup>3+</sup>, and Hg<sup>2+</sup> for recycling to the AcH manufacture

IT 74-86-2P, Acetylene, reactions  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(steam hydrolysis of, to **acetaldehyde**, mercury recovery from wastewater from)

RN 74-86-2 CAPLUS  
CN Ethyne (9CI) (CA INDEX NAME)

HC≡CH

L12 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1985:614247 CAPLUS  
DOCUMENT NUMBER: 103:214247  
TITLE: Catalytic reactions by thermally activated, synthetic anionic clay minerals  
AUTHOR(S): Reichle, Walter T.  
CORPORATE SOURCE: Tech. Cent., Union Carbide Corp., Bound Brook, NJ, 08805, USA  
SOURCE: Journal of Catalysis (1985), 94(2), 547-57  
CODEN: JCTLA5; ISSN: 0021-9517  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 103:214247

AB The thermal decomposition of anionic clay minerals belonging to the pyroaurite-sjogrenite group, such as hydrotalcite [Mg<sub>6</sub>Al<sub>2</sub>(OH)<sub>16</sub>(CO<sub>3</sub>2-)<sub>4</sub>·4H<sub>2</sub>O], results in a product [approx. Mg<sub>6</sub>Al<sub>2</sub>O<sub>8</sub>(OH)<sub>2</sub>] which is a fairly strong base (pK<sub>a</sub> ≤ 35) and a useful **catalyst** for vapor-phase aldol condensations. Replacement of Mg by Fe, Co, Ni, and Zn and/or replacement of Al by Fe and Cr also results in isomorphous double hydroxides which, on heat treatment, are catalytically active. A rational method of synthesizing these materials having controlled surface areas is devised. The effect of the thermal decomposition temperature, Mg/Al ratio, isomorphous metal cation substitution, and interstitial anion nature on the rate and efficiency of acetone oligomerization are examined. These materials will also catalyze H-D exchange of acetone and toluene but not of PhPr or cyclohexane (300°, LHSV approx.1). They are relatively poor catalysts for olefin isomerization as well as aromatization of 1,4-cyclohexadiene and limonene.

IT 74-86-2P, preparation  
RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, from acetone, **catalyst** for)

RN 74-86-2 CAPLUS  
CN Ethyne (9CI) (CA INDEX NAME)

HC≡CH

ACCESSION NUMBER: 1978:490037 CAPLUS  
 DOCUMENT NUMBER: 89:90037  
 TITLE: Development of a new **catalyst** and kinetic study of the synthesis of **acetaldehyde** by the hydration of acetylene  
 AUTHOR(S): Mengalli, F. C.; Cunningham, R. E.  
 CORPORATE SOURCE: Cent. Invest. Desarrollo Proc. Catal., La Plata, Argent.  
 SOURCE: Congr. Nac. Latinoam. Petroquim., [Actas], 4th (1976), Volume 5, 277-302. Librart: Buenos Aires, Argent.  
 CODEN: 38PAA4  
 DOCUMENT TYPE: Conference  
 LANGUAGE: Spanish

AB Amberlite IR-200 (N3+ form) was washed with H2SO4-HgO to give a partially mercurated **catalyst** which was active, even at room temperature, for the hydration of HC.tplbond.CH to give MeCHO; this **catalyst** was used for a continuous process. The kinetics were described by a Langmuir-Hinshelwood model. This **catalyst**, as well as one made from a mixture of the resin and HgO, lost activity with time but exhibited the desirable features of heterogeneous catalysts in that the MeCHO formed in solution was in contact with the **catalyst** for a limited time. The expts., using the resin HgO mixture, had low reproducibility.  
 IT 74-86-2P, preparation  
 RL: PREP (Preparation)  
 (hydration, over partially mercurated ion exchange resin, kinetics of)  
 RN 74-86-2 CAPLUS  
 CN Ethyne (9CI) (CA INDEX NAME)

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